



4310-VH-P

DEPARTMENT OF THE INTERIOR

Bureau of Safety and Environmental Enforcement

30 CFR Part 250

[Docket ID: BSEE-2014-0001]

RIN: 1014-AA22

Oil and Gas and Sulphur Operations in the Outer Continental Shelf (OCS);

Helideck and Aviation Fuel Safety for Fixed Offshore Facilities

AGENCY: Bureau of Safety and Environmental Enforcement (BSEE), Interior.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: The BSEE is seeking comments on improving safety for operations related to helicopters and helidecks on fixed offshore facilities. Specifically, BSEE invites comments on whether to incorporate in its regulations certain industry and/or international standards for design, construction, and maintenance of offshore helidecks, as well as standards for aviation fuel quality, storage and handling. The BSEE also invites comments on whether it should incorporate existing standards, with modifications, and/or develop and propose new government regulatory standards for safety of helidecks and aviation fuel systems. As an alternative to incorporating or developing such standards, BSEE invites comments on whether to require submission of aviation-related safety plans for helidecks and offshore aviation fuel systems on Outer Continental Shelf (OCS) facilities. The BSEE also seeks information on past accidents or other incidents involving helidecks, helicopters, or aviation fuel on or near fixed OCS facilities.

DATES: Submit comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. The BSEE may not fully consider comments received after this date.

ADDRESSES: You may submit comments on this notice by any of the following methods. Please use the Regulation Identifier Number (RIN) 1014-AA22 as an identifier in your comments. In addition, please refer to “Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Helideck and Aviation Fuel Safety for Fixed Offshore Facilities, 1014-AA22,” in your comments and include your name and return address. The BSEE may post all submitted comments, in their entirety, at www.regulations.gov.
See Public Availability of Comments.

- Federal eRulemaking Portal: <http://www.regulations.gov>. In the entry titled “Enter Keyword or ID,” enter BSEE-2014-0001, then click search. Follow the instructions to submit public comments and view supporting and related materials available for this rulemaking.

- Mail or hand-carry comments to the Department of the Interior (DOI); Bureau of Safety and Environmental Enforcement; Attention: Regulations and Standards Branch; Office of Offshore Regulatory Programs; 381 Elden Street, HE3313; Herndon, Virginia 20170-4817.

FOR FURTHER INFORMATION CONTACT: Ralph Colleli, Regulations and Standards Branch, 703-787-1831, e-mail address: regs@bsee.gov.

SUPPLEMENTARY INFORMATION:

Executive Summary

In accordance with the Outer Continental Shelf Lands Act (OCSLA), BSEE and the U.S. Coast Guard (USCG) share regulatory authority over offshore facilities engaged in

oil and gas operations—including exploration, development, and production activities—on the OCS. Among other purposes, BSEE’s regulations for offshore operations seek to prevent injury or loss of life and damage to property, natural resources, and the environment. As one means of achieving these goals, BSEE incorporates by reference in its regulations many industry standards applicable to offshore oil and gas operations.

Although the Federal Aviation Administration (FAA) has broad authority regarding helicopter-related safety issues and onshore and offshore flight safety, BSEE has the lead responsibility for safety of helidecks and aviation fuel storage and handling on fixed offshore facilities, while the USCG has the lead responsibility for helidecks and aviation fuel handling on floating offshore facilities. Currently, BSEE’s regulations incorporate and require compliance with certain industry standards that address some safety issues related to helidecks and the presence of helicopters and aviation fuel on fixed offshore facilities. However, BSEE’s existing regulations do not comprehensively address helideck or aviation fuel safety issues.

Recent reports by the U.S Centers for Disease Control and Prevention (CDC) and the Helicopter Safety Advisory Conference confirm that helicopter accidents and helicopter-related incidents on or near offshore facilities are a significant concern. Similarly, incident reports submitted by offshore operators to the Minerals Management Service (MMS)—BSEE’s predecessor agency—or to BSEE over the past 15 years indicate that incidents involving helicopter operations on or near offshore facilities have resulted in several fatalities, significant injuries and substantial property damage.

The BSEE has reviewed existing industry and international standards for helideck and aviation fuel safety and believes that certain standards, if incorporated into BSEE’s regulations for fixed offshore facilities, could improve safety and reduce risks of injury

and damage to property without imposing undue burdens on the offshore oil and gas industry. However, we are also considering possible alternatives to incorporating, and requiring compliance with, relevant existing standards. For example, BSEE could incorporate only parts of existing standards, or incorporate certain standards with specific modifications, or even develop and adopt government standards, if appropriate. In addition, in lieu of requiring compliance with specific standards, we are considering whether to require that fixed offshore facility owners or operators develop aviation-related safety plans that demonstrate how each facility would ensure safety and minimize risks associated with helidecks and aviation fuel systems.

Before incorporating any existing standards or otherwise revising our regulations, we seek additional information about helicopter, helideck, and aviation fuel-related incidents related to fixed offshore facilities. In addition, we invite public comments on other issues related to offshore helideck and aviation fuel safety, including:

- Any technical differences between fixed and floating facility helidecks; and
- The potential costs of requiring compliance with various industry and international standards, including the potential costs of retrofitting existing helidecks and aviation fuel systems on fixed OCS facilities.

BSEE's Functions and Authority

The BSEE promotes safety, protects the environment, and conserves offshore oil and gas resources through vigorous regulatory oversight and enforcement. The BSEE derives its regulatory authority primarily from the OCSLA, as amended, 43 U.S.C. 1331-1356a, which establishes Federal control over the OCS and authorizes the Secretary of the Interior (the Secretary) to regulate oil and natural gas exploration, development, and production operations on the OCS. In Secretarial Order 3299 (May 19, 2010), the

Secretary assigned BSEE the responsibility for offshore safety and environmental enforcement, including the authority to:

- Issue permits for activities,
- Inspect, investigate, summon witnesses, and order production of evidence,
- Levy penalties,
- Cancel or suspend activities,
- Oversee safety, response and removal preparedness, and
- Ensure conservation of offshore oil and natural gas resources (*see* 76 FR 64432,

Oct. 18, 2011).

To carry out its responsibilities, BSEE regulates exploration, development, and production of oil and natural gas on the OCS to enhance safety and environmental protection in a way that reflects advancements in technology and new information. In addition to developing and implementing such regulatory requirements, BSEE collaborates with standards development organizations and the international community to develop and revise safety and environmental standards, which BSEE may incorporate into its regulatory program. The BSEE also conducts on-site inspections to ensure compliance with regulations, lease terms, and approved plans. Detailed information concerning BSEE's regulations and guidance for the offshore industry may be found on BSEE's website at: <http://www.bsee.gov/Regulations-and-Guidance/index>.

Public Participation and Availability of Comments

The BSEE encourages you to participate in this advance notice of proposed rulemaking (ANPR) by submitting written comments as provided in the "ADDRESSES" and "DATES" sections of this notice. However, before including your address, phone number, e-mail address, or other personal identifying information in your comments, you

should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comments to withhold your personal identifying information from public view, we cannot guarantee that we will be able to do so.

Procedures for Incorporation by Reference and Availability of Incorporated Documents for Public Viewing

In accordance with the National Technology Transfer and Advancement Act of 1995, Public Law 104-113, and OMB Circular A-119, Federal agencies are directed to use standards developed by voluntary consensus standards bodies—domestic or international—in lieu of adopting government-unique standards, except where inconsistent with law or impracticable. In addition, Federal agencies may choose to use standards developed by entities other than voluntary consensus standards bodies in their regulations.

The BSEE frequently uses standards (*e.g.*, codes, specifications, recommended practices (RP), bulletins, and reports) developed through a consensus process, facilitated by standards development organizations and with input from the oil and gas industry, as a means of establishing requirements for activities on the OCS. The BSEE may incorporate these standards into its regulations without republishing the standards in their entirety in the Code of Federal Regulations, a practice known as incorporation by reference. The legal effect of incorporation by reference is that the incorporated provisions become regulatory requirements. This incorporated material, like any other properly issued regulation, has the force and effect of law, and BSEE holds operators, lessees and other regulated parties accountable for complying with the incorporated

documents. We currently incorporate by reference over 100 consensus standards in BSEE's regulations governing offshore oil and gas operations (*see* 30 CFR 250.198).

Federal regulations at 1 CFR part 51 govern how BSEE and other Federal agencies incorporate various documents by reference. Agencies may incorporate a document by reference by publishing the document's title, edition, date, author, publisher, identification number, and other specified information in the *Federal Register*. The Director of the *Federal Register* must approve each publication incorporated by reference in a final rule. Incorporation by reference of a document or publication is limited to the specific edition approved by the Director of the *Federal Register*.

Background Information for Helideck and Aviation Fuel Safety on Fixed OCS Facilities

1. Responsibility for Offshore Helideck and Helicopter-related Safety

In a Memorandum of Agreement (MOA) dated September 30, 2004 (No. OCS-01), MMS and USCG identified, and agreed on how to share, certain responsibilities for regulation of OCS facilities. Under that MOA, MMS and USCG agreed that MMS (now BSEE) has the lead responsibility for aircraft (*i.e.*, helicopter) landing and refueling systems (*i.e.*, helidecks, fuel handling and storage) on fixed offshore facilities and that USCG has the lead for the same systems on mobile offshore drilling units (MODUs) and other floating offshore facilities.¹ Subsequent MOAs (Nos. OCS-04, OCS-05, OCS-08) between USCG and MMS/BSEE have reiterated this sharing of responsibility for helidecks and aviation fuel handling and storage.² Similarly, the FAA, which regulates onshore helipads and onshore and offshore helicopter flight safety, has recognized that

¹ Various terms are commonly used to describe the landing area for helicopters on offshore facilities, including "offshore heliport," "helicopter landing deck," and "helideck." For simplicity and consistency, this ANPR uses the term "helideck."

² The MMS/BSEE-USCG MOAs are available at www.bsee.gov/BSEE-Newsroom/Publications-Library/Interagency-Agreements.

helidecks on fixed offshore facilities are under the purview of DOI and that “shipboard and relocatable” helidecks are under the purview of USCG (see U.S. Aeronautical Information Publication (AIP), 22nd Ed., Amendment 3, July 24, 2014, at p. 1.7-95).³

a. USCG regulations. For U.S.-flagged MODUs, USCG has specific regulations for construction and size, fire protection, and location and markings for helidecks and for aviation fuel storage facilities and equipment (see 46 CFR 108.231 – 108.241, 108.486-108.489, 108.653, 109.575 – 109.577). Under 33 CFR 143.207 and 146.205, those regulations or equivalent requirements also apply to foreign-flagged MODUs.⁴ The only USCG regulation expressly addressing helidecks on OCS facilities other than MODUs is 33 CFR 143.110(b), which requires a protective device (*e.g.*, a guardrail) around the perimeter of a helideck sufficient to prevent a person from falling.

b. BSEE regulations. Under 30 CFR part 250, BSEE currently regulates over 2,500 fixed OCS facilities—mostly located in the Gulf of Mexico (GOM) Region—the great majority of which have helidecks for transporting personnel and supplies offshore.⁵ With the following exceptions, however, BSEE’s regulations do not expressly address helicopter, helideck, or aviation fuel safety issues.

Section 250.154(a)(2) requires all OCS facilities with helidecks to display identification signs that include the weight capacity of the helidecks and that are visible from the air. Section 250.490(f)(7) requires facilities operating in hydrogen sulfide (H₂S) areas to submit contingency plans to BSEE that describe circumstances under

³ This FAA publication is available at

http://www.faa.gov/air_traffic/publications/atpubs/aip/aip_w_amds_1-3_dtd_7-24-14.pdf.

⁴ Under 33 CFR 143.207 and 146.205, foreign-flagged MODUs engaged in OCS activities must comply with 46 CFR part 108 and part 109, respectively, or with equivalent standards of the relevant foreign nation, or with applicable standards of the International Maritime Organization.

⁵ As provided by 30 CFR 250.132(a)(2), OCS lessees and operators must provide helicopter landing sites and refueling facilities for any helicopters used by BSEE to regulate offshore operations.

which it is appropriate to evacuate personnel by helicopter during H₂S emergencies; while section 250.490(j)(13)(viii) requires facilities to limit H₂S-related evacuation flights to the circumstances described in their contingency plans and to provide respirator equipment to helicopter crews and passengers in such emergencies.

The BSEE's regulations also incorporate and require compliance with several industry standards that address helideck and aviation fuel safety issues.⁶ For example, 30 CFR 250.114 requires installation of electrical systems on all OCS facilities in compliance with American Petroleum Institute (API) RP 14F (Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities, Fifth Edition) or API RP 14FZ (Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities, First Edition). Those standards (which differ slightly according to the location of the platforms) include criteria:

- For installation of perimeter lights, aircraft warning lights, and general lighting of helidecks, and
- For locating antennas on platforms in areas that will not obstruct helidecks.

In addition, 30 CFR 250.901(a)(14) requires that plans for design, analysis, fabrication, installation, use, maintenance, inspection, and assessment of all OCS platforms comply with API RP 14J (Design and Hazards Analysis for Offshore Production Facilities, Second Edition), as appropriate.⁷ In effect, API RP 14J states that facility operators should consider the location of helicopter fuel, helicopters, and helidecks on production facilities when designing gas venting and flaring equipment and

⁶ In addition, BSEE issued a national Notice to Lessees (No. 2011 N-08) in October 2011 advising OCS lessees and operators on how to mark helidecks for temporary closures, consistent with Helicopter Safety Advisory Conference Recommended Practices 2008-01 and 92-5.

⁷ Similarly, 30 CFR 250.800(b)(1) requires production safety systems on new floating production facilities to comply with API RP 14J.

platform communications systems. In addition, Appendix A.2 of API RP 14J provides a sample checklist of questions that operators may consider in developing facility-specific hazards analyses for their production facilities, including several questions regarding the design, layout, and materials for helidecks and the location of helicopter fueling systems.

While sections 250.901 and 250.114 do not directly impose helideck or aviation fuel storage requirements on facility operators, they allow BSEE to consider whether plans for offshore production platforms are consistent with API RP 14J and whether the installation of electrical systems on all facilities is consistent with API RP 14F/14FZ.

In addition, BSEE's regulations require that each offshore facility be covered by a Safety and Environmental Management System (SEMS) program that addresses, among other things, safety and environmental hazards related to design, construction, operation and maintenance of the facility (*see* 30 CFR part 250, Subpart S). Because helideck and aviation fuel systems are features of most fixed offshore facilities, the SEMS programs for those facilities would also extend to those systems. Similarly, the SEMS rules require that contractors performing work for such facilities have written safe work practices, which may include appropriate sections of the facilities' SEMS programs (*see* 30 CFR 250.1914).

Moreover, section 250.107 requires OCS operators to: perform all operations in a safe and workmanlike manner; maintain all equipment and work areas in a safe condition; and immediately control, remove or otherwise correct any health, safety or fire hazard. Under this authority, BSEE has issued notices of Incidents of Noncompliance (INCs) for unsafe conditions involving helidecks or related equipment or areas. From 1998 to mid-2013, MMS/BSEE issued over 400 INCs under section 250.107(a) to fixed OCS facilities for

unsafe conditions involving helidecks.⁸ Similarly, MMS/BSEE has issued over 100 INCs for noncompliance with the helideck facility identification requirements of section 250.154(a)(2).

2. Safety Incidents Related to Helidecks and Offshore Helicopter-related Operations

Despite the existing BSEE and USCG regulatory provisions, safety of helicopter-related systems and operations on and near offshore facilities remains a concern. In April 2013, the CDC reported that, based on industry data, the leading cause of death for offshore oil and gas extraction workers between 2003 and 2010 was transportation to and from work sites.⁹ Specifically, CDC's analysis indicates that of 128 fatalities involving offshore oil and gas operations, 49 persons died in 17 incidents involving helicopters. The CDC reported that the most common factors in those incidents were mechanical failure and bad weather (although there were no bad weather crashes from late 2009 through 2012). It is not clear from this report whether any of the incidents occurred on or near fixed offshore facilities.¹⁰ However, the CDC report was based in part on an analysis of National Transportation Safety Board data on GOM helicopter crashes related to the oil and gas industry from 1983 through 2009 indicating that:

- 19 crashes, resulting in six fatalities, involved helicopters striking objects on offshore platforms, and

⁸ Examples of unsafe or unworkmanlike helideck conditions cited in INCs include: missing, corroded, or damaged helideck skirting; loose or damaged helideck surfaces; corroded helideck supports; loose equipment or other obstructions on helidecks; and loose or damaged handrails, guardrails, stairways or ladders. In addition, BSEE has issued several INCs under 30 CFR 250.107(a) for aviation fuel handling equipment.

⁹ The CDC report is available at

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6216a2.htm?s_cid=mm6216a2_w.

¹⁰ The CDC report also does not indicate how many incidents involved fixed offshore facilities and how many involved MODUs or other floating offshore facilities. Nor does that report indicate how many of the incidents were caused by factors that potentially could be addressed by BSEE regulations under OCSLA.

- Eight crashes, resulting in one fatality, involved failure to remove tie-downs before takeoff from offshore platforms.¹¹

Similarly, in May 2014, the Helicopter Safety Advisory Conference (HSAC)—an organization that represents petroleum companies, drilling and oil service companies, and helicopter operators and manufacturers and that focuses on identifying and sharing information about offshore helicopter safety in the GOM—reported that there were 21 offshore helicopter accidents in the GOM between 2009 and 2013, resulting in 11 fatalities and 15 injuries. The HSAC also reported that, between 1999 and 2013, 17 offshore helicopter accidents involved helideck or other obstacle strikes, and six accidents involved aviation fuel management problems (although HSAC’s report does not indicate how many helicopter incidents involved fixed offshore facilities and how many involved MODUs or floating offshore facilities).¹²

The HSAC has also stated that, over the years, its member organizations have reported engine-related events resulting from aviation fuel contamination, although it is not clear from HSAC’s statements whether the reported fuel management and contamination problems occurred onshore or offshore (*see* HSAC RP 2004-02 (Jet Fuel Quality Procedures), May 2012, at p.1).

The BSEE’s own incident data also indicate that there are ongoing safety concerns with helidecks and helicopter-related operations on OCS facilities. Under section 250.188, the BSEE receives reports from OCS operators and lessees regarding certain incidents—including fatalities, significant injuries, property damage exceeding \$25,000, and fires and explosions—that occur anywhere on their lease areas. Between 1998 and

¹¹ See “Helicopter Crashes Related to Oil and Gas Operations in the Gulf of Mexico,” *Journal of Aviation, Space and Env. Med.*, Sept. 2011 (S. Baker, *et al.*), at pp. 885-888.

¹² HSAC’s annual statistical reports on offshore helicopter incidents for 1999 through 2013 are available at <http://hsac.org/Statistics.aspx>.

mid-2014, BSEE received almost 100 incident reports involving helicopters, helidecks, or aviation fuel on or near fixed OCS facilities in the GOM and Pacific regions. Many of these reports involved helicopters crashing or ditching in the water before or after landing on OCS facilities for reasons (*e.g.*, mechanical failures, bad weather, or pilot error) that may be unrelated to circumstances onboard the OCS facilities. A few of the engine failure incidents may have been related to contaminated fuel, although it is not clear from the incident reports whether the fuel in those incidents was provided onshore or offshore. In addition, a significant number of the incidents reported to BSEE involved helicopters striking parts of a platform or other materials on or close to a helideck. The remaining incidents included wind-related damage to helicopters that had already landed on a helideck, injuries to persons exiting or boarding helicopters on platforms, and other injuries on helidecks or resulting from helicopter operations. The BSEE is also aware of concerns that some helicopter accidents or near-misses may have been related to the engine's ingestion of methane gas vented by a fixed OCS facility, although the exact causes of some events have not yet been confirmed.

The CDC, HSAC and BSEE reports do not indicate, however, whether any of the OCS facilities involved in helicopter-related incidents were or were not meeting voluntary industry standards for helidecks and aviation fuel safety at the time.

3. Domestic Standards and Guidance for Helidecks and Helicopter-related Operations on Offshore Platforms

Several industry and other organizations have developed voluntary standards or guidance expressly addressing safety issues related to helicopters, helidecks, and aviation fuel on offshore facilities.

a. API RP

API RP 2L (Planning, Designing, and Constructing Heliports for Fixed Offshore Platforms), 4th Ed. (1999, reaffirmed 2006), is a widely accepted voluntary consensus standard for design and construction of new helidecks on fixed offshore platforms.

Among other safety issues, API RP 2L addresses:

- Helideck structural materials and flight deck surfaces,
- Helideck design loads,
- Location and size of helidecks,
 - Design of approach/departure and obstacle-free zones,
 - Location of helideck access and egress stairways and ladders,
 - Helideck fire protection,
 - Helideck safety equipment, including tie-down points and ropes,
 - Helideck lighting and markings,
 - Wind direction indicators, and
 - Positioning of aviation fueling stations on fixed platforms.

The API is in the process of updating and substantially revising API RP 2L. It is our understanding that API expects to publish revisions to API RP 2L in three stages. The first stage (tentatively referred to as API 2L-1) is undergoing review in the API standard setting process and may be published later in 2014. We understand that API 2L-1 is intended to address planning, design and construction of new helidecks on fixed offshore platforms. The second phase of the revisions to API RP 2L (tentatively called API 2L-2) is expected to address assessment, maintenance and management of existing (legacy) helidecks constructed prior to the publication of API RP 2L in 1996. The third phase of the revisions (tentatively API 2L-3) is expected to address operations and management of all new and existing helidecks.

The BSEE has participated in relevant API committees and working groups responsible for drafting the first phase of the revisions to API RP 2L and will continue to closely monitor development of that document as well as the second and third phases of the revisions.

b. HSAC RPs

The HSAC has published several RPs applicable to offshore helicopter and helideck operations and aviation fuel quality. The HSAC—although not a consensus standard-setting organization—developed these RPs and guidelines in cooperation with API, the Offshore Operators Committee, and various other industry and technical organizations interested in offshore and aviation safety.¹³

Specifically, HSAC RP 2004-1 (Offshore Helideck Inspections) complements existing API RP 2L by recommending practices and providing a checklist for inspecting helidecks, identifying potentially hazardous conditions (structural and temporary), and notifying helicopter operators of potential hazards. Similarly, HSAC RP 2004-07 (Helideck Hazards) encourages training for helicopter pilots to identify and report potential helideck obstructions and other hazards so facility owners can take corrective action.

In addition, HSAC RP 2008-01 (GOM Helideck Markings) is intended to provide some consistency for markings on fixed platform helidecks in the GOM, based in part on API RP 2L and in part on international standards such as Annex 14 to the Convention on International Civil Aviation (CICA) adopted by the International Civil Aviation Organization (ICAO) and the United Kingdom's (UK) Civil Aviation Authority

¹³ All of the HSAC recommended practices are available for free online at HSAC's website, www.hsac.org.

Publication (CAP) 437 (Standards for Offshore Helicopter Landing Areas), Feb. 2013. In particular, HSAC RP 2008-01 provides detailed guidance for issues such as:

- Final approach and take-off area identification,
- Obstacle-free sector identification,
- Installation identification,
- Access points,
- Maximum allowable weight,
- Helicopter size limits, and
- Prohibited landing areas.

Although helicopter operators are typically responsible for ensuring the quality of their own fuel under agreements with offshore facility operators, HSAC RP 2004-02 (Jet Fuel Quality Control Procedures), revised May 2012, offers guidance on storage, distribution and sampling of jet fuel, and on inspection of fueling systems for offshore helicopter flights. For example, HSAC RP 2004-02 recommends that:

- Fuel system owners and operators develop written quality control procedures, coordinate inspection of all fuel systems, and correct any defects and report the defects to the helicopter operators,
- Helicopter operator or aviation advisory personnel inspect all refueling systems at least once a year,
- All fuel delivery systems have a filter/separator equipped with a water defense system actuated by high water content,
- All fuel storage containers be allowed to settle for at least an hour prior to use or sampling and that all required fuel samples be taken prior to the first refueling of the day, and

- Portable offshore fuel transport tanks be tested and documented in accordance with Department of Transportation regulations (49 CFR parts 173 and 180).

Other HSAC RPs address additional safety issues related to offshore helicopter and helideck operations. For example:

- RP 88-1 (Passenger Management on Offshore Helideck Facilities), revised May 2010, recommends that helicopters be shut down prior to loading/unloading passengers, that designated passenger waiting areas be clear of the helideck and helideck access points, and that passengers be briefed before loading/unloading.

- RP 89-1 (Crane-Helicopter Operational Procedures), revised May 2010, recommends that platform cranes be shut down and cradled (if feasible) or pointed away from the helideck when helicopters are approaching or taking off, and that if a crane remains in use, the helicopter pilot and crane operator be in direct communication and that red warning lights on the crane be activated.

- RP 92-2 (Perforating Operations: Helideck/Heliport Operational Hazard Warning(s)/Procedure(s)), revised May 2010, recommends that helicopter operators or bases be notified prior to offshore perforation operations, in order to avoid premature detonation of explosives by helicopter radio transmissions, and that helidecks be temporarily marked as closed whenever explosives may be affected by radio transmissions.

- RP 92-3 (Hydrogen Sulfide Gas Helideck/Heliport Operational Hazard Warning(s)/Procedure(s)), revised May 2010, provides that oil field operators should activate a red rotating beacon if hydrogen sulfide is detected and notify nearby helicopters and bases, and that if a red beacon is observed or unusually strong odors are

detected when flying near a helideck, pilots should put on protective air packs, exit upwind, and notify the facility of the suspected hazard.

- RP 92-4 (Gas Venting, Helideck/Heliport Operational Hazard Warning(s)/Procedure(s)), revised May 2010, recommends that pilots plan their approaches and takeoffs to avoid areas downwind of or over gas vents, that oilfield supervisors notify helicopter operators of planned gas venting operations, and that large, high-volume gas vents be equipped with red rotating beacons.

- RP 92-5 (Helideck/Heliport Operational Warning(s)/Procedure(s)), Closed Helidecks or Heliports) states that a white X (or an orange or yellow X if the deck is painted white) from corner to corner of a helideck is the universal indicator that the landing area is closed and that helicopter operations are prohibited.

- RP 93-2 (Offshore Helidecks/Landing Communications), revised May 2010, states that before landing on offshore facilities, pilots should make radio contact, if practicable, with the facility owners or operators and that, if radio contact is not practicable, pilots should contact the facilities' owners or operators by telephone before departing for the facilities.

- RP 93-3 (Multiple Helicopter Operations on Offshore Helidecks), revised May 2010, recommends that, before multiple helicopter operations, specific restrictions and procedures be developed to ensure that

- Full clearance of at least one-third rotor diameter from all obstacles in the vicinity of the helideck is provided,

- Factors such as helicopter weight and performance, wind, temperature and deck conditions are considered,

- Helicopters are parked at least three feet from the helideck edge, and

- Parked helicopters are shut down and all main rotor blades are properly tied down.

- RP 94-1 (Helicopter Rapid Refueling (HRR)), revised May 2010, states that

- decisions to conduct HRR require attention to weather, quality control, static electricity, spills and fire potential,

- passengers should be de-boarded prior to beginning HRR unless the pilot deems it necessary for passengers to remain seated during HRR, and

- only designated, properly trained personnel may operate HRR equipment.

- RP 2004-05 (Night Offshore Helicopter Flights), May 2004, provides that helidecks should be at least one rotor diameter in size and capable of accommodating loaded helicopters of the weight and size for night flights, and that lighting should be adequate to illuminate obstructions, windsocks, and the helideck perimeter (consistent with API RP 2L).

- RP 2005-1 (Helicopter Tiedown Practices), June 2005, recommends that

- Offshore helicopters be equipped with helideck tiedowns capable of securing the helicopter at four points,

- Tiedowns be inspected daily and replaced when excessively worn or deteriorated,

- Helicopters be tied down when severe weather exists or is forecast, and

- A parked helicopter be tied down when a medium or larger helicopter is landing or taking off.

c. FAA Manual

While the FAA recognizes BSEE's purview over fixed offshore helidecks, the FAA also publishes information for potential use by pilots in performing their duties safely

even in situations where other agencies may have regulatory responsibility. In particular, the FAA's *Aeronautical Information Manual: Official Guide to Basic Flight Information and ATC Procedures* (AIM), Feb. 2012 (revised April 2014), provides information on offshore helicopter operations, including recommended practices expressly based on HSAC's RPs for the GOM.¹⁴ Specifically, Section 10-2-1 of the *AIM* provides guidance on offshore operations directly based on the HSAC RPs previously described.

All of the documents described previously are potential candidates for incorporation by reference, in whole or in part, in BSEE's regulations for fixed offshore facilities. However, some portions of some of the HSAC standards apply to issues (*e.g.*, flight operations, pilot flight training, and helicopter design) that may be better addressed by the FAA or other agencies that regulate aircraft flight safety than by BSEE. In addition, as explained above, some of the standards (*e.g.*, API RP 2L and HSAC RP 2008-1) are currently undergoing revision and may no longer, in some respects, reflect the best and safest technology or practices now in use.¹⁵ Accordingly, as discussed later in this notice, we are seeking comments on which of the above standards or portions thereof, if any, we should incorporate in BSEE's regulations.

4. International Standards and Guidance for Helidecks and Helicopter-related Operations on Offshore Platforms

In addition to the API and HSAC standards described previously, several international organizations have issued guidance documents that contain recommendations for helicopter, helideck, and aviation fuel safety on offshore facilities.

¹⁴ The AIM is available for free online on FAA's website at http://www.faa.gov/air_traffic/publications/ATpubs/AIM/index.htm.

¹⁵ For example, the helideck warning and marking standards in existing API RP 2L and HSAC 2008-1 may not be fully consistent with the most current international standards, including the latest version of the ICAO's Annex 14 to the CICA.

For example, the International Association of Oil and Gas Producers (OGP) *Aircraft Management Guidelines* (Rept. No. 390, July 2008, updated August 2013), includes guidance on issues such as:

- Fuel quality control (sec. 7.4),
- Portable offshore fuel tanks (sec. 7.6),
- Airbase/helideck fire protection and equipment (sec. 11.7),
- Heliport and helideck design, size, obstructions, and offshore operational hazard considerations (sec. 11.9),
- Helideck personnel qualifications (App. A5D),
- Offshore weather reporting, forecasting, and planning (App. A6), and
- Cold weather helideck precautions (App. A13.9.2.4).¹⁶

The OGP guidelines are, in turn, largely based on international codes and agreements, other guidance documents and industry best practices. In particular, OGP relies heavily on volumes I (Aerodromes) and II (Heliports) of Annex 14 to the CICA as adopted by the ICAO.¹⁷ The OGP also relies on the United Kingdom's CAP 437 for guidance on issues such as:

- Helideck design and physical characteristics,
- Helideck rescue and firefighting equipment,
- Helideck management and operations, and
- Aviation fuel systems and procedures.¹⁸

Other international standards or codes also address offshore helicopter-related safety.¹⁹ For example, the USCG regulations for helidecks and aviation fuel systems on

¹⁶ The OGP Aircraft Management Guidelines are available for free online at <http://www.ogp.org.uk/pubs/390.pdf>.

¹⁷ Information about ICAO and its publications is available at <http://www.icao.int/publications>.

¹⁸ The UK's CAP 437 is available free online at <http://www.caa.co.uk/docs/33/CAP437.pdf>.

MODUs, found in 46 CFR parts 108 and 109, are intended to be consistent with the International Maritime Organization (IMO) code requirements for helicopter facilities on MODUs that were under development at the time the USCG regulations were adopted (*see* 43 FR 56788, December 4, 1978). The original 1979 IMO Code for Construction and Equipment of MODUs (MODU Code) was replaced by the 1989 IMO MODU Code, which in turn was substantially revised by the 2009 MODU Code.²⁰ The 2009 MODU Code's updated provisions for helidecks and helicopter facilities on newly constructed MODUs were prompted by similar changes made by ICAO to the CICA with regard to helicopter facilities (*see* IMO Resolution A.1023(26), December 2, 2009). Where appropriate, the 2009 MODU Code refers to the latest ICAO Annex 14 provisions for helicopter and heliport safety.

Among other things, the 2009 MODU Code addresses:

- Fire safety measures for helidecks (i.e., firefighting equipment, helideck design and construction materials, emergency exits),
- MODU-helicopter communications,
- Safety measures for refueling facilities and equipment,
- Isolation of aviation fuel storage areas and tanks,
- Helideck design and construction material,
- Helideck perimeter safety netting and protection,
- Visual aids (*e.g.*, wind direction indicators, markings and warnings, perimeter and flood lighting, status and warning lights),

¹⁹ Other international standards organizations include the Energy Institute (EI), which jointly produced (with API) EI 1529 (Aviation Fuelling Hose and Hose Assemblies), Sixth Ed., May 2005, an international standard for performance and testing of aircraft fueling hoses, couplings, and assemblies. Information about EI and its publications can be found at www.energyinst.org.

²⁰ Information about IMO and its publications is available at www.imo.org/Publications.

- Removal or marking of obstacles on helidecks, and
- Manuals for helideck operating procedures (including helicopter refueling).

In addition to such international standards, several foreign countries with significant offshore oil and gas operations have adopted regulations, standards, and guidance applicable to helidecks and aviation fuel safety on fixed and floating offshore facilities. For example, the Norwegian Oil and Gas Association (OLF) *Helideck Manual*, Jan. 2011, for petroleum facilities on Norway's continental shelf provides guidelines for helideck personnel training and qualifications, as well as summaries of Norwegian regulatory requirements for helideck materials, safety and rescue devices, firefighting equipment and systems, visual aids, and communications.²¹ The OLF *Helideck Manual* also provides guidance on helideck operations and aviation fuel safety procedures, including:

- Fuel sampling and testing,
- Inspection of fuel hoses and nozzles,
- Fuel transport and storage tanks, and
- Normal and 'hot' refueling procedures.

Although BSEE is not required to incorporate by reference any standards that are not adopted by voluntary consensus standard-setting organizations, each of the above domestic and international documents, as well as others not described above, may contain valuable information on the best available and safest technology for fixed OCS

²¹ The OLF *Helideck Manual*, Jan. 2011, is available for free on OLF's website at <http://www.norskoljeoggass.no/en/Publica/HSE-and-operations/Helideck-manual/>. A companion OLF document, *Recommended Guidelines for Helideck Personnel – 074*, April 2002, is also available at <http://www.norskoljeoggass.no/Global/Retningslinjer/Drift/LuftfartHelikopter/074%20-%20Recommended%20guidelines%20for%20helideck%20personnel.pdf>.

facilities.²² Thus, such standards, codes, and guidelines could be considered for possible incorporation (in whole or in part) in BSEE's rules or could help BSEE determine whether other standards—such as API's and HSAC's RPs—should be incorporated instead. In addition, BSEE could consider incorporating a combination of appropriate domestic and international standards to create a comprehensive, up-to-date regulatory framework that reduces potential safety risks related to helidecks and aviation fuel systems on fixed OCS facilities.

Other Options for Consideration

In addition to considering incorporating by reference existing industry or other domestic and/or international standards, BSEE is considering other regulatory approaches to reduce aviation-related safety risks for fixed offshore facilities. For example, some portions of an otherwise useful standard may be out of date or may be incompatible with portions of another potentially useful standard. In such cases, BSEE could incorporate in the regulations relevant parts of an existing standard, and/or adopt appropriate modifications to other parts of that standard or other standards, and/or develop and adopt new prescriptive requirements to minimize risks and improve safety.

The BSEE is also considering whether any newly incorporated or other new regulatory standards for helideck design or construction, and for aviation fuel systems, should apply only to new helidecks and aviation fuel systems installed on fixed facilities after the effective date of such final regulations, or should also apply to existing helidecks

²² For example, the Air Transport Association of America (ATA), an association of commercial airlines, has adopted a standard (ATA Spec. 103: Jet Fuel Quality Control at Airports, revised 2006) that provides guidance on recognized industry inspection procedures and safety checks for jet fuel storage and distribution at airports. Although this standard is intended primarily for the commercial airline industry, and is not focused on helicopter fuel or offshore helidecks, it may contain useful information regarding aviation fuel quality, storage, and handling that could inform BSEE's future decisions. More information about ATA and this standard is available at www.airlines.org.

and fuel systems on fixed OCS facilities, even if that requires retrofitting. Accordingly, BSEE will seek additional information on the potential costs and other impacts of retrofitting.

As an alternative to incorporating specific standards or adopting other prescriptive requirements, BSEE is considering whether to require owners or operators of fixed OCS facilities to develop aviation-related safety plans that would demonstrate how the owner or operator would ensure safe helicopter, helideck, and aviation fuel system operations. For example, such a plan could demonstrate that a fixed OCS facility would comply with certain industry or other standards that, taken together, would reduce risks and ensure safe and workmanlike conditions and safe work areas. The BSEE is also considering whether such plans, if required, should be submitted to and approved by BSEE or should be subject to evaluation by BSEE upon request (like the SEMS programs required under Subpart S of 30 CFR part 250).

In addition, in order to determine whether OCS facilities and their personnel are complying with such plans, BSEE is considering whether such aviation-related safety plans should be subject to periodic auditing by BSEE or by an accredited third-party (like the SEMS programs, *see* 30 CFR 250.1920 - 250.1922) or by any other entity.

Finally, BSEE is aware of the importance of consistency between regulatory requirements for all OCS facilities, whether fixed or floating. Accordingly, BSEE is considering various options for coordinating any future proposed rulemaking with the USCG to maximize consistency between BSEE's and USCG's rules. The BSEE also plans to consult with the FAA and other agencies interested in safety of offshore helicopter operations, as appropriate.

Issues for Public Comment

For the reasons described above, BSEE seeks public comments on the following issues only. Although BSEE is not required to respond in writing to such comments, BSEE will consider relevant comments in developing any proposed rules for improving safety of helidecks and aviation fuel storage and handling on fixed OCS facilities. Please identify the specific issue that your comments address by referring to the following issue numbers.

(1) In addition to the statistical reports and summaries described in this notice, what other relevant, reliable data on accidents or other safety issues related to helicopters, helidecks, or aviation fuel systems on fixed offshore facilities should BSEE consider before deciding whether to propose any new regulations?

(2) Which existing domestic or international standards or guidance documents, if any, related to planning, design, construction, inspection, maintenance and/or use of helidecks on fixed offshore facilities should BSEE consider incorporating by reference in its regulations? What would the potential cost impacts be if BSEE incorporated, and required compliance with, such documents?

(3) Which domestic or international standards or guidance for aviation fuel quality, storage, or handling should BSEE consider incorporating in its regulations for fixed offshore facilities? What would the potential cost impacts be if BSEE incorporated, and required compliance with, such documents?

(4) If you think that BSEE should consider incorporating any existing standards for helidecks or aviation fuel systems, please identify any specific provisions in those standards that BSEE should not incorporate, or that BSEE should modify or supplement before incorporation.

(5) If you are a fixed offshore facility owner or operator, please describe how you currently address any existing industry or other standards regarding safety of helidecks and aviation fuel systems.

(6) What differences between fixed and floating offshore facilities should BSEE consider with regard to whether any existing standards that apply to floating offshore facilities should be incorporated by BSEE for applicability to fixed offshore facilities? How important is it that requirements for helidecks and/or aviation fuel systems on fixed and floating offshore facilities be consistent?

(7) What provisions, if any, of USCG's regulations for helidecks on MODUs (46 CFR parts 108 and 109) should BSEE consider in developing any helideck regulations for fixed offshore facilities?

(8) If, as an alternative to requiring facilities to comply with specific standards, BSEE required owners or operators of fixed offshore facilities to develop aviation-related safety plans demonstrating how they would ensure safe helicopter, helideck, and aviation fuel management operations, how should BSEE ensure the adequacy of, and compliance with, such plans?

(a) For example, should BSEE or an accredited third party or some other entity conduct audits of such plans to verify the adequacy and proper implementation of the plans?

(9) If BSEE proposes to incorporate any existing industry standard or prescribe any other requirements for helideck lighting, what helideck perimeter lighting properties (e.g., specific color, brightness) should we incorporate or otherwise require?

(10) If BSEE decides to apply any new regulatory standards for helideck design or construction, and for aviation fuel systems, to all existing helidecks and fuel systems on

fixed OCS facilities, even if that required retrofitting existing helidecks or aviation fuel systems, what types of costs would existing facilities potentially incur?

(11) What structural, technical or economic issues related to the aging of existing offshore facilities and helidecks should BSEE consider when deciding how to improve aviation-related safety on fixed OCS facilities?

(12) Are you aware of any potential risks from helicopter engines ingesting methane or other gases vented from a fixed OCS facility and, if so, how should BSEE address those potential risks?

September 11, 2014
Date

David E. Haines
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Land and Minerals Management

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